

FIGURE 1

VSFRLSGATTTSY,	FRLSGATTTSYGV,	TSYGVFIKNLREA,
YGVFIKNLREALP,	GVFIKNLREALPY,	VFIKNLREALPYE,
KNLREALPYERKV,	EALPYERKVYNIP,	LPYERKVYNIPLL,
RKVYNIPLLRSSI,	KVYNIPLLRSSIS,	YNIPLLRSSISGS,
IPLLRSSISGSGR,	PLLRSSISGSGRY,	SSISGSGRYTLLH,
GRYTLLHLTNYAD,	YTLLHLTNYADET,	TLLHLTNYADETI,
LHLTNYADETISV,	TNYADETISVAVD,	ETISVAVDVTNVY,
ISVAVDVTNVYIM,	VAVDVTNVYIMGY,	VDVTNVYIMGYLA,
TNVYIMGYLAGDV,	NVYIMGYLAGDVS,	VYIMGYLAGDVSY,
YIMGYLAGDVSYF,	MGYLAGDVSYFFN,	GYLAGDVSYFFNE,
GDVSYFFNEASAT,	VSYFFNEASATEA,	SYFFNEASATEAA,
YFFNEASATEAAK,	AKFVFKDAKKKVT,	KFVFKDAKKKVTL,
FVFKDAKKKVTL,	KKVTLPYSGNYER,	VTLPYSGNYERLQ,
LPYSGNYERLQTA,	GNYERLQTAAGKI,	ERLQTAAGKIREN,
GKIRENIPGLPA,	ENIPGLPALDSA,	IPLGLPALDSAIT,
LGLPALDSAITTL,	PALDSAITTLYYY,	SAITTLYYTASS,
TTYYYTASSAAS,	TLYYYTASSAASA,	LYYYTASSAASAL,
YYYTASSAASALL,	SALLVLIQSTAES,	ALLVLIQSTAESA,
LLVLIQSTAESAR,	LVLQSTAESARY,	VLIQSTAESARYK,
ARYKFIEQQIGKR,	YKFIEQQIGKRVD,	KFIEQQIGKRVDK,
QQIGKRVDKTFLP,	KRVDKTFLPSLAT,	KTFLPSLATISLE,
TFLPSLATISLEN,	PSLATISLENNWS,	ATISLENNWSALS,
ISLENNWSALSKQ,	NNWSALSKQIQIA,	SALSKQIQIASTN,
KQIQIASTNNGQF,	IQIASTNNGQFES,	GQFESPVVLIDGN,
SPVVLIDGNNQRV,	PVVLIDGNNQRV,	VVLIDGNNQRVSI,
VLIDGNNQRVSIT,	QRVSITNASARVV,	VSITNASARVVTS,
ARVVTSNIALLLN,	RVVTSNIALLLNR,	SNIALLLNRNNIA,
IALLLNRNNIAAI,	ALLNRNNIAAIG,	LLNRNNIAAIGE,
NNIAAIGEDISMT,	AAIGEDISMTLIG,	EDISMTLIGFEHG,
ISMTLIGFEHGLY,	MTLIGFEHGLYGI,	

FIGURE 2

Peptide ID #	Bryodin1; 15mer peptide sequence	Residue #
1	DVSFRLSGATTTSYG	1
2	FRLSGATTTSYGVFI	4
3	SGATTTSYGVFIKNL	7
4	TTSYGVFIKNLREA	10
5	SYGVFIKNLREALPY	13
6	VFIKNLREALPYERK	16
7	KNLREALPYERKVYN	19
8	REALPYERKVYNIPL	22
9	LPYERKVYNIPLLR	25
10	ERKVYNIPLLRSSIS	28
11	VYNIPLLRSSISGSG	31
12	IPLLRSSISGSGRYT	34
13	LRSSISGSGRYTLH	37
14	SISGSGRYTLHLTN	40
15	GSGRYTLHLTNAD	43
16	RYTLHLTNADETI	46
17	LLHLTNADETISVA	49
18	LTNYADETISVAVDV	52
19	YADETISVAVDVTNV	55
20	ETISVAVDVTNVYIM	58
21	SVAVDVTNVYIMGYL	61
22	VDVTNVYIMGYLAGD	64
23	TNVYIMGYLAGDVS	67
24	YIMGYLAGDVSYFFN	70
25	GYLAGDVSYFFNEAS	73
26	AGDVSYFFNEASATE	76
27	VSYFFNEASATEAAK	79
28	FFNEASATEAAKFVF	82
29	EASATEAAKFVFKDA	85
30	ATEAAKFVFKDAKKK	88
31	AAKFVFKDAKKKVTL	91
32	FVFKDAKKKVTLPYS	94
33	KDAKKKVTLPYSGNY	97
34	KKKVTLPYSGNYERL	100
35	VTLPYSGNYERLQTA	103
36	PYSGNYERLQTAAGK	106
37	GNYERLQTAAGKIRE	109
38	ERLQTAAGKIRENIP	112
39	QTAAGKIRENIPGL	115
40	AGKIRENIPGLPAL	118
41	IRENIPGLPALDSA	121
42	NIPGLPALDSAITT	124
43	LGLPALDSAITTLYY	127

Peptide ID #	Bryodin1; 15mer peptide sequence	Residue #
44	PALDSAITTLYYYTA	130
45	DSAITTLYYYTASSA	133
46	ITTLYYYTASSAASA	136
47	LYYYTASSAASALLV	139
48	YTASSAASALLVLIQ	142
49	SSAASALLVLIQSTA	145
50	ASALLVLIQSTAESA	148
51	LLVLIQSTAESARYK	151
52	LIQSTAESARYKFIE	154
53	STAESARYKFIEQQI	157
54	ESARYKFIEQQIGKR	160
55	RYKFIEQQIGKRVDK	163
56	FIEQQIGKRVDKTFL	166
57	QQIGKRVDKTFLPSL	169
58	GKRVDKTFLPSLATI	172
59	VDKTFLPSLATISLE	175
60	TFLPSLATISLENNW	178
61	PSLATISLENNWSAL	181
62	ATISLENNWSALSQ	184
63	SENNWSALSQKIQI	187
64	NNWSALSQKIQIAST	190
65	SALSQKIQIASTNNG	193
66	SKQIQIASTNNGQFE	196
67	IQIASTNNGQFESPV	199
68	ASTNNGQFESPVVLI	202
69	NNGQFESPVVLIDGN	205
70	QFESPVVLIDGNNQR	208
71	SPVVLIDGNNQRVSI	211
72	VLIDGNNQRVSIITNA	214
73	DGNNQRVSIITNASAR	217
74	NQRVSIITNASARVVT	220
75	VSITNASARVVTNSI	223
76	TNASARVVTNSIAL	226
77	SARVVTNSIALLLNR	229
78	VVTNSIALLLNRNNI	232
79	SNIALLLNRNNIAAI	235
80	ALLNRNNNIAAIGED	238
81	LNRNNNIAAIGEDISM	241
82	NNIAAIGEDISMTLI	244
83	AAIGEDISMTLIGFE	247
84	GEDISMTLIGFEHGL	250
85	ISMTLIGFEHGLYGI	253

**FIGURE 3****Epitope R1 (residues 46-66)**

1BRY	RYTLLHLTNYADETISVAVDV
1TCS	::A:I::::::::::::I::
1CF5	:FI::::S::Y:::::::::

**Epitope R2 (residues 88-102)**

1BRY	ATEAAKFVFKDAKKK
1TCS	::::::Y:::::MR:

**Epitope R3 (residues 112-135)**

1BRY	ERLQTAAGKIRENIPGLPALDSA
1TCS	::::::::::::::::::::
1CF5	:N::::H::::::::::::S::
1MOM	:::I::::P::K::I::::::::

**Epitope R4 (residues 136-162)**

1BRY	ITTLYYYTASSAASALLVLIQSTAESA
1TCS	:::F::N:N:::::M:::::S:A:
1CF5	:::F::N:Q::P:::::T:::A:
1MOM	:S::LH:DSTA::G:::::T:::A:

**Epitope R5 (residues 178-204)**

1BRY	ATISLENNWSALSQIQIAST
1TCS	:I::::S:::::::::::::
1CF5	:I::::Q:::::::::FL:QN
1MOM	::::::S::G:::::L:QG

FIGURE 4

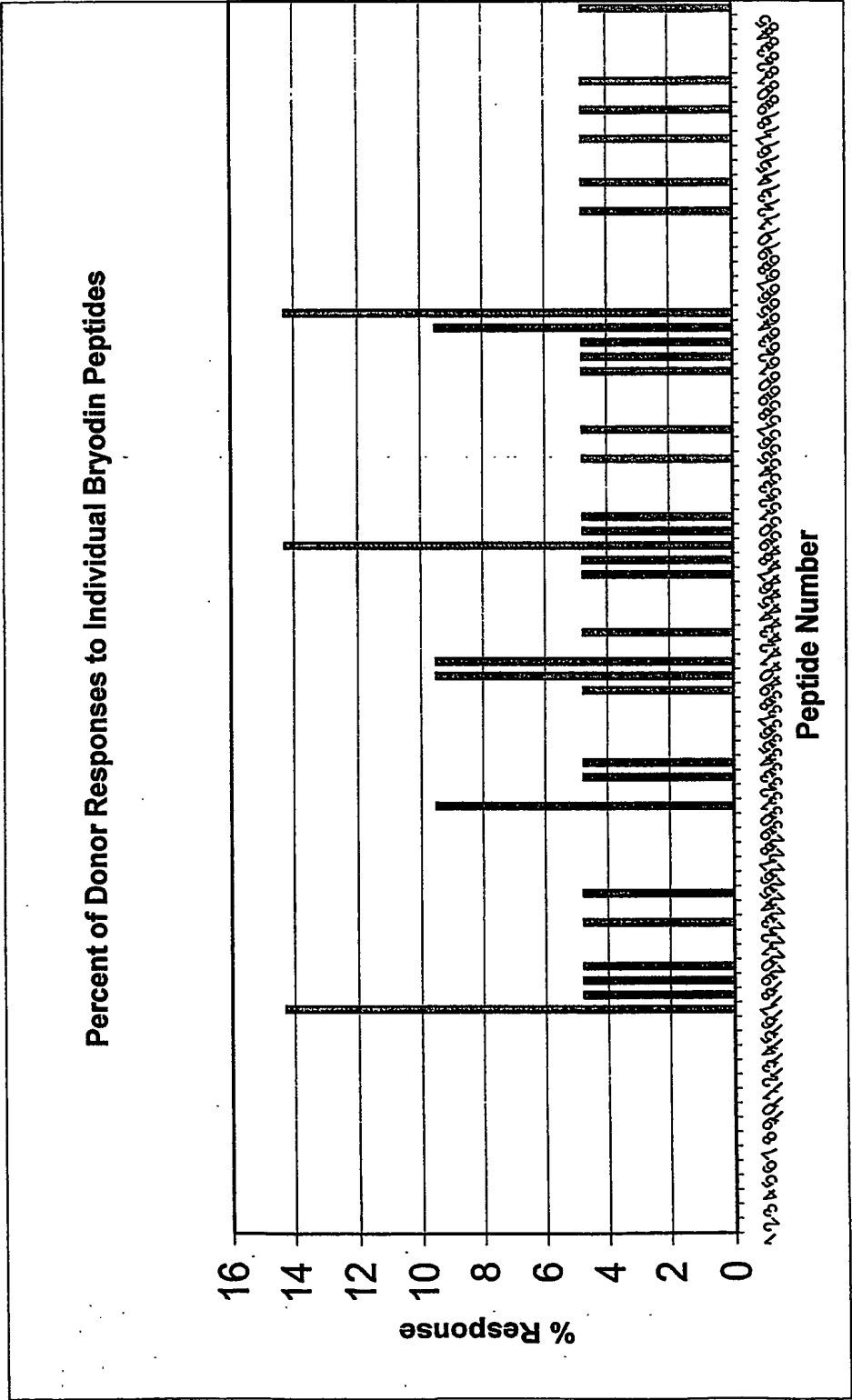
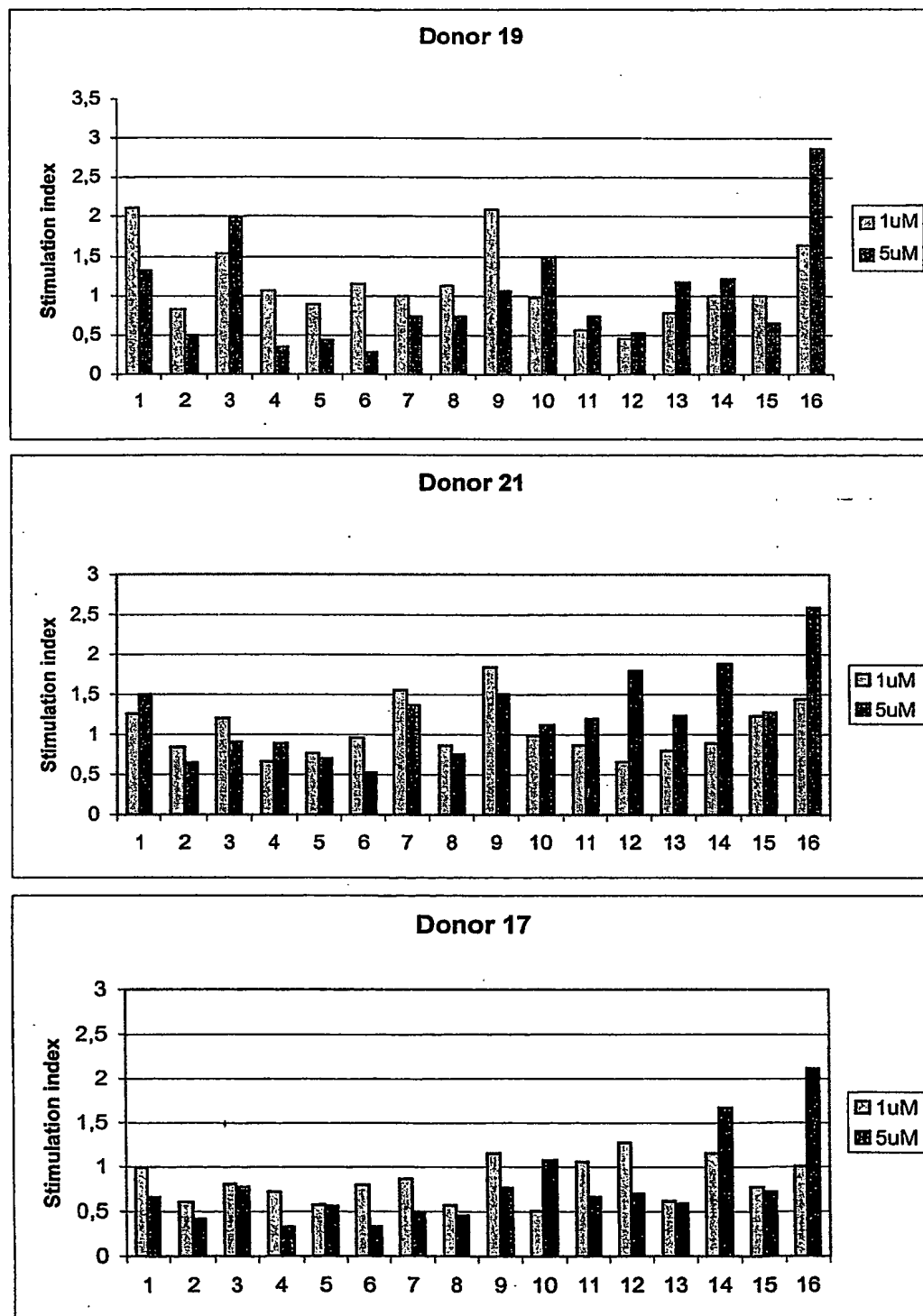
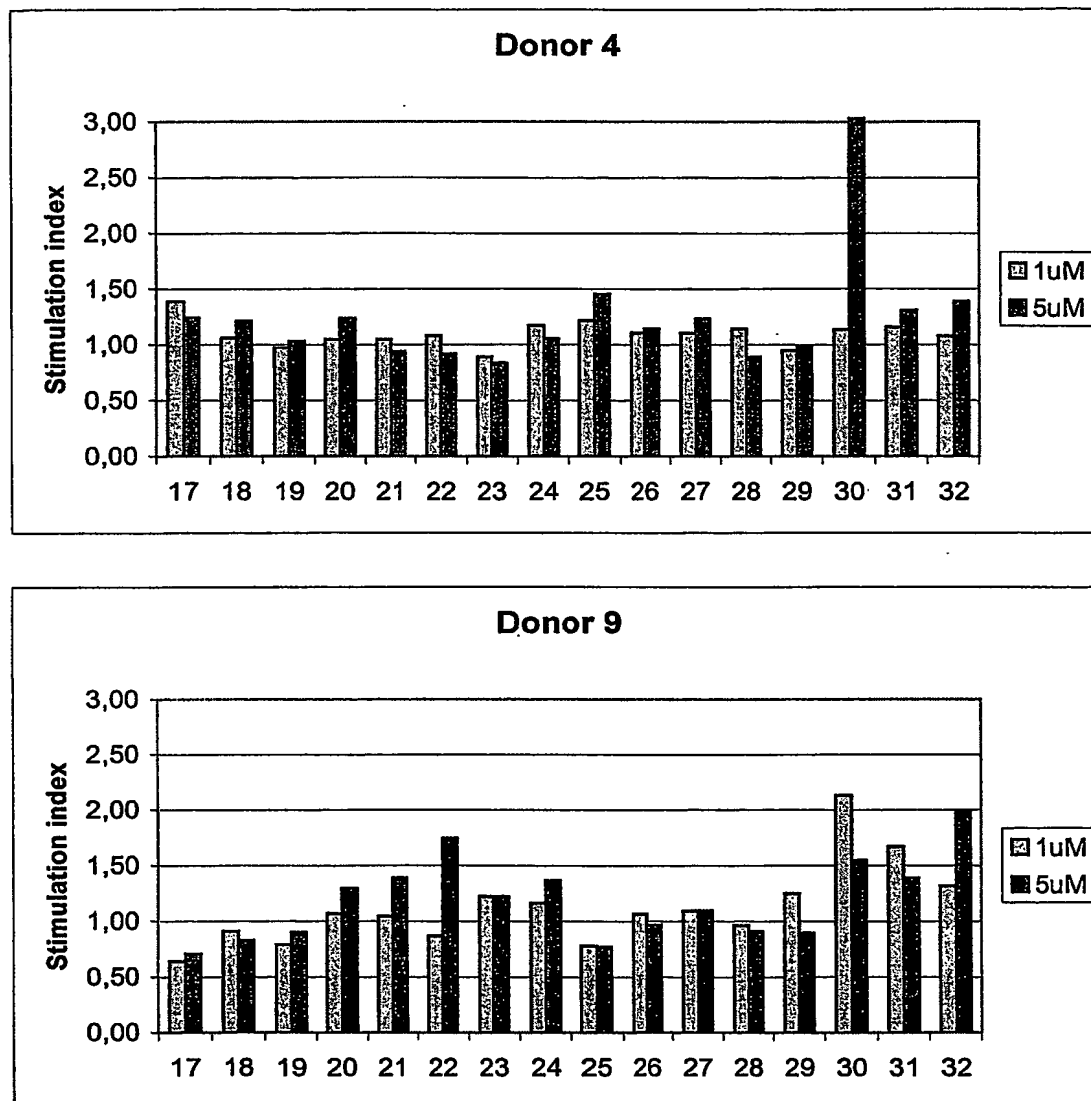


FIGURE 5 A

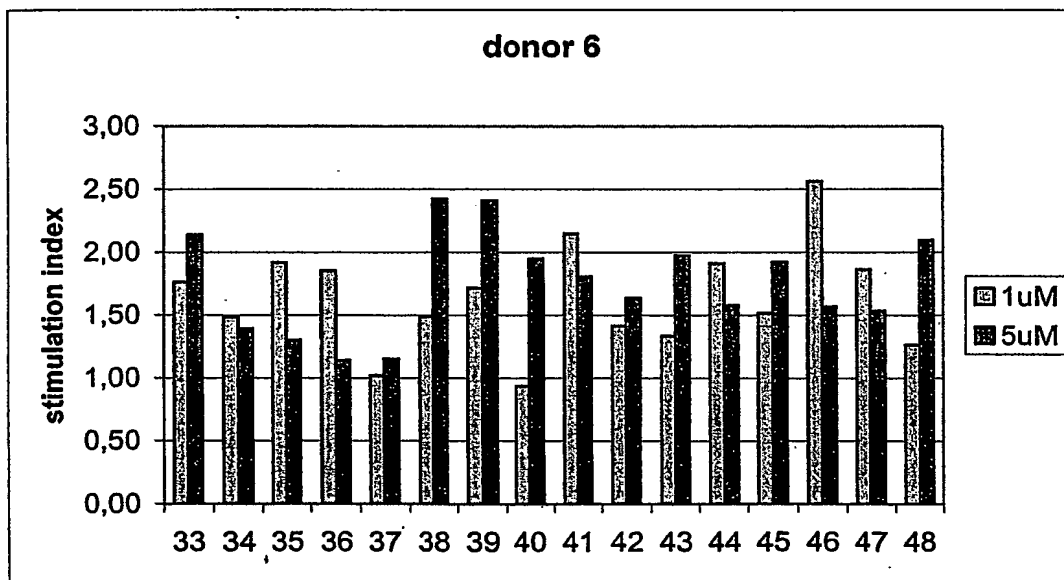
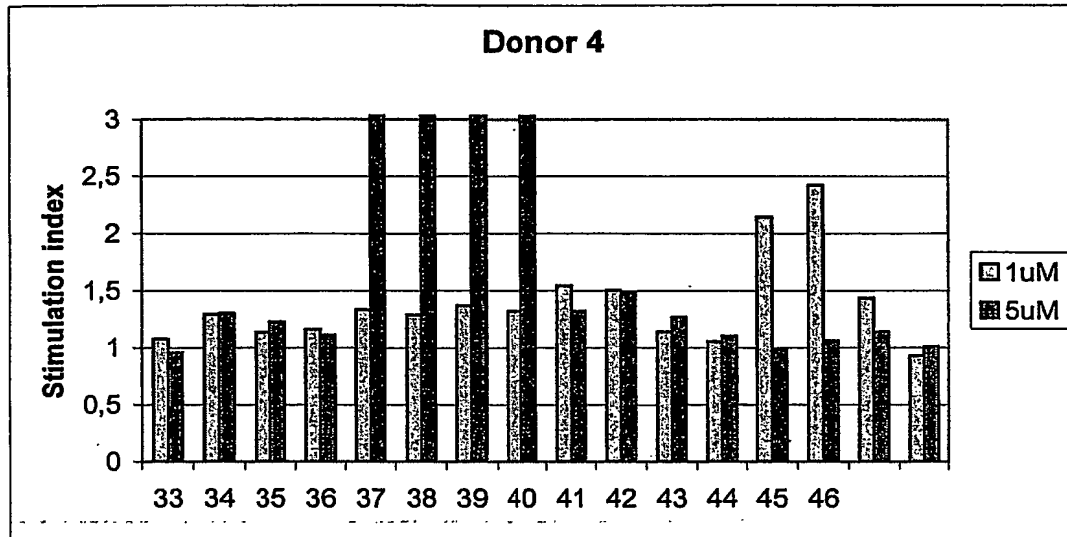


PBMC donor response charts to bryodin 1 peptides #1 –16  
Peptide #16 is encompassed within epitope region R1

**FIGURE 5 B**

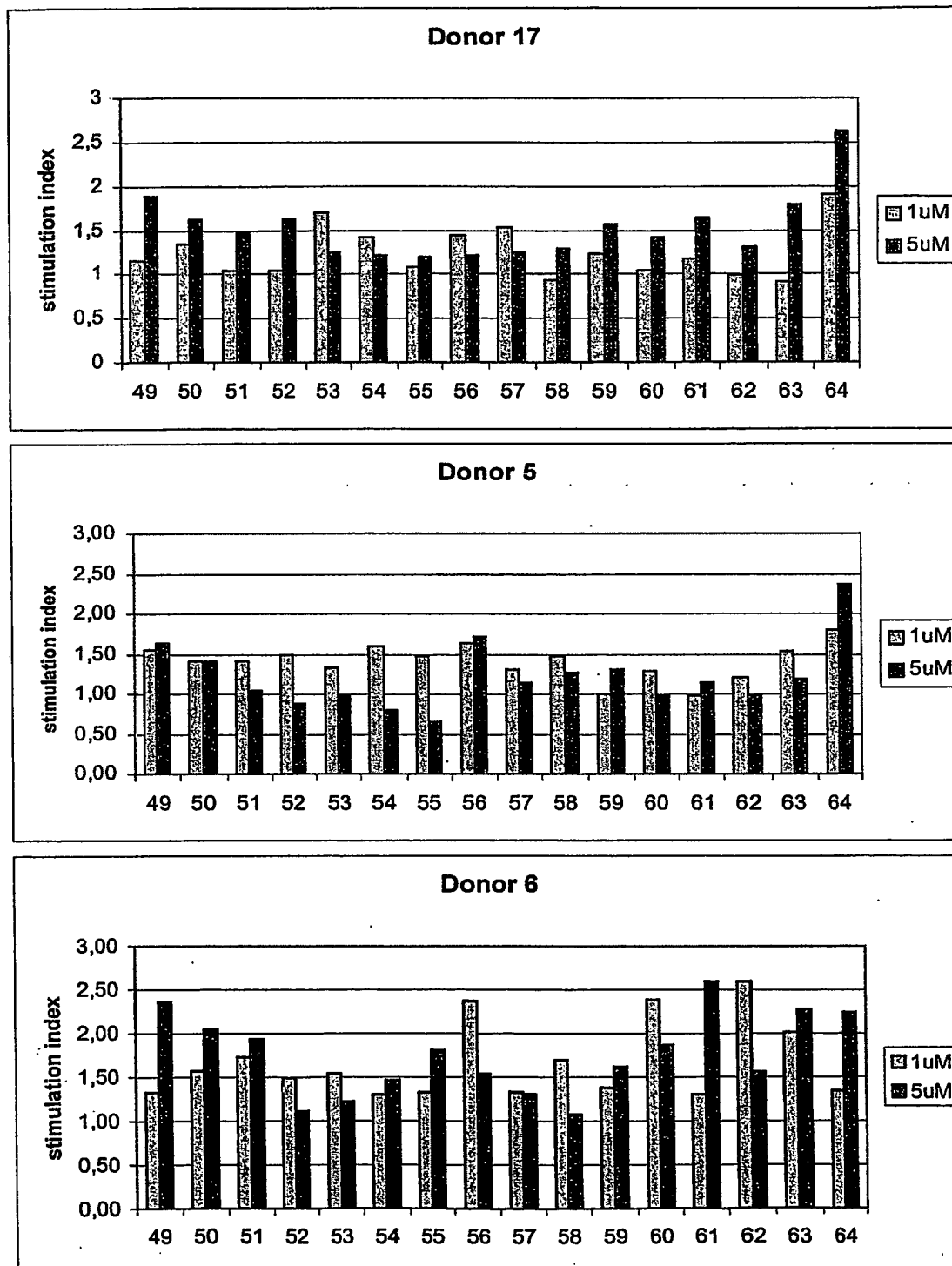
PBMC donor response charts to bryodin 1 peptides #17 - 32  
Peptide #30 is encompassed within epitope region R2

FIGURE 5 C



PBMC donor response charts to bryodin 1 peptides #33 – 48  
Peptides #39 and #40 are encom[passed within epitope region R3.

FIGURE 5 D



PBMC donor response charts to bryodin 1 peptides #49 - 64  
Peptide #64 is encompassed within epitope region R5



FIGURE 6

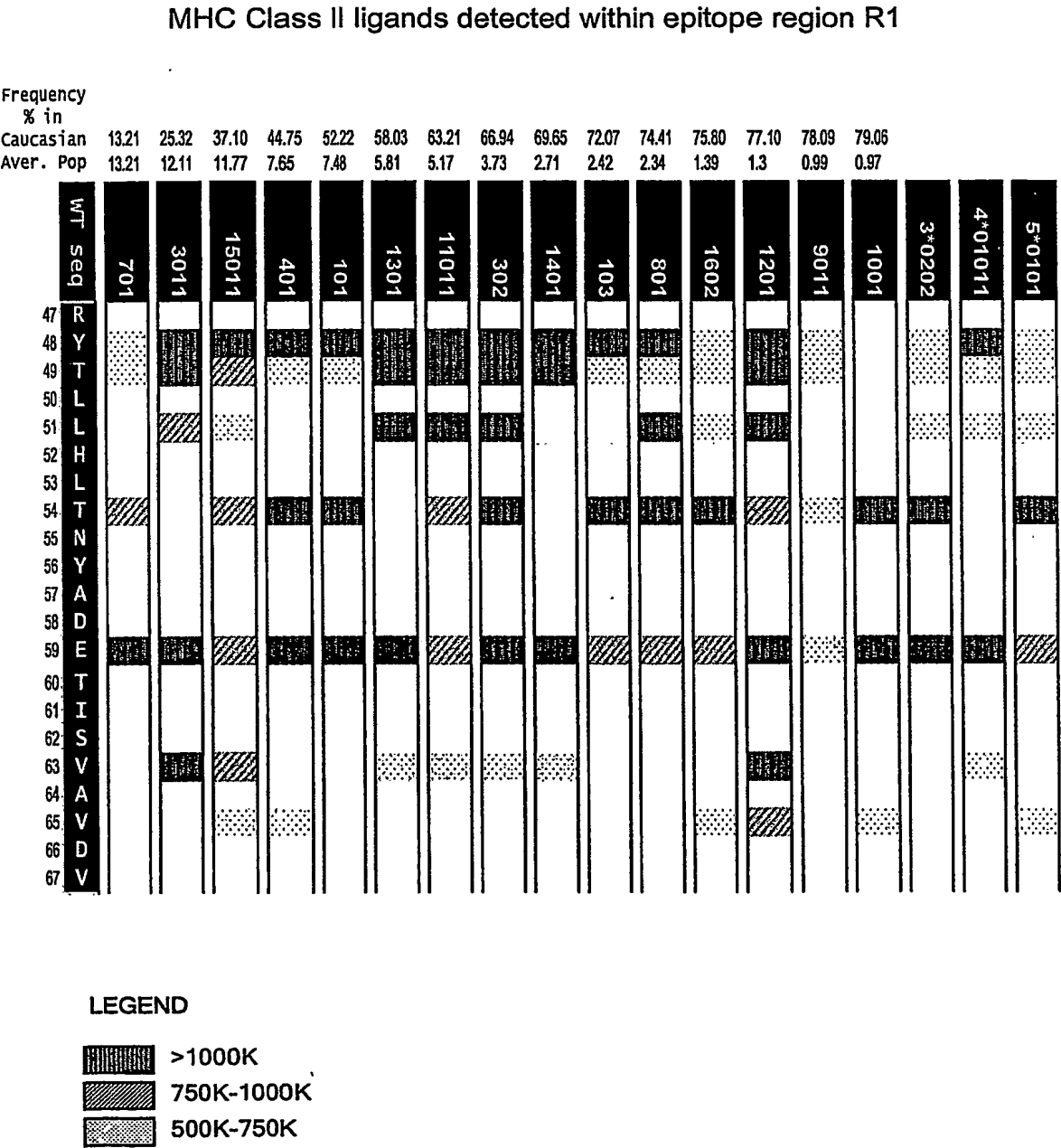
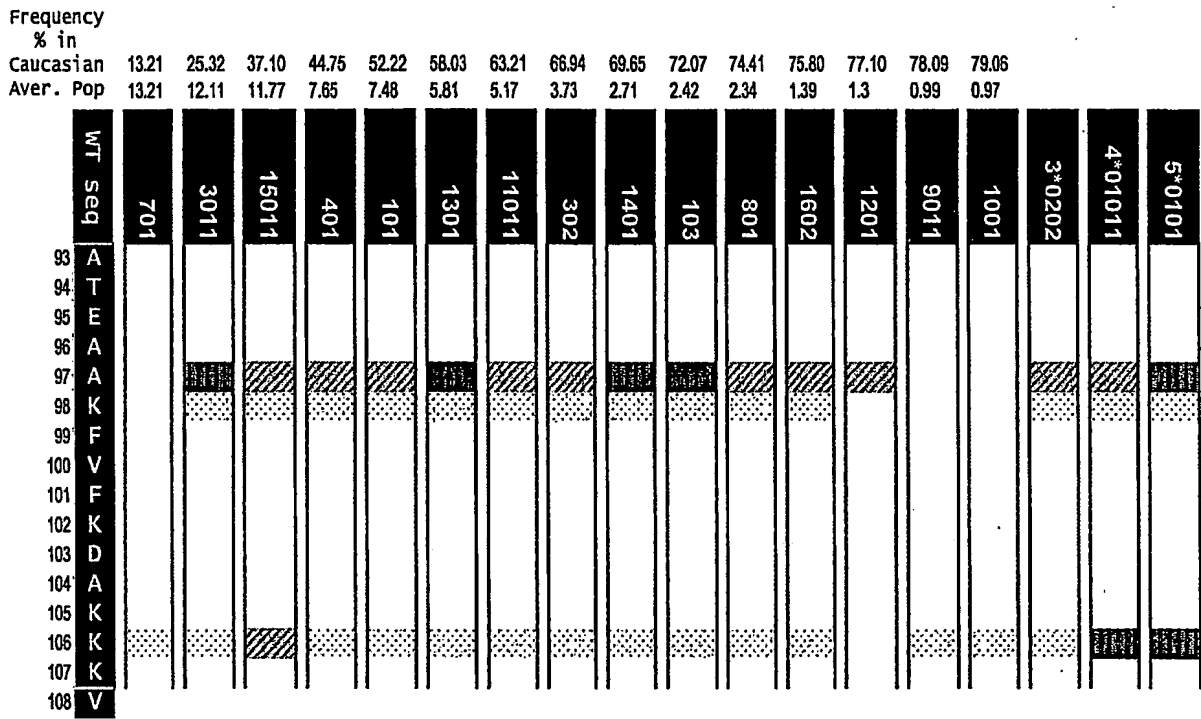


FIGURE 7

MHC Class II ligands detected within epitope region R2



LEGEND

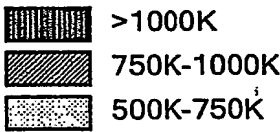


FIGURE 8

## MHC Class II ligands detected within epitope region R3

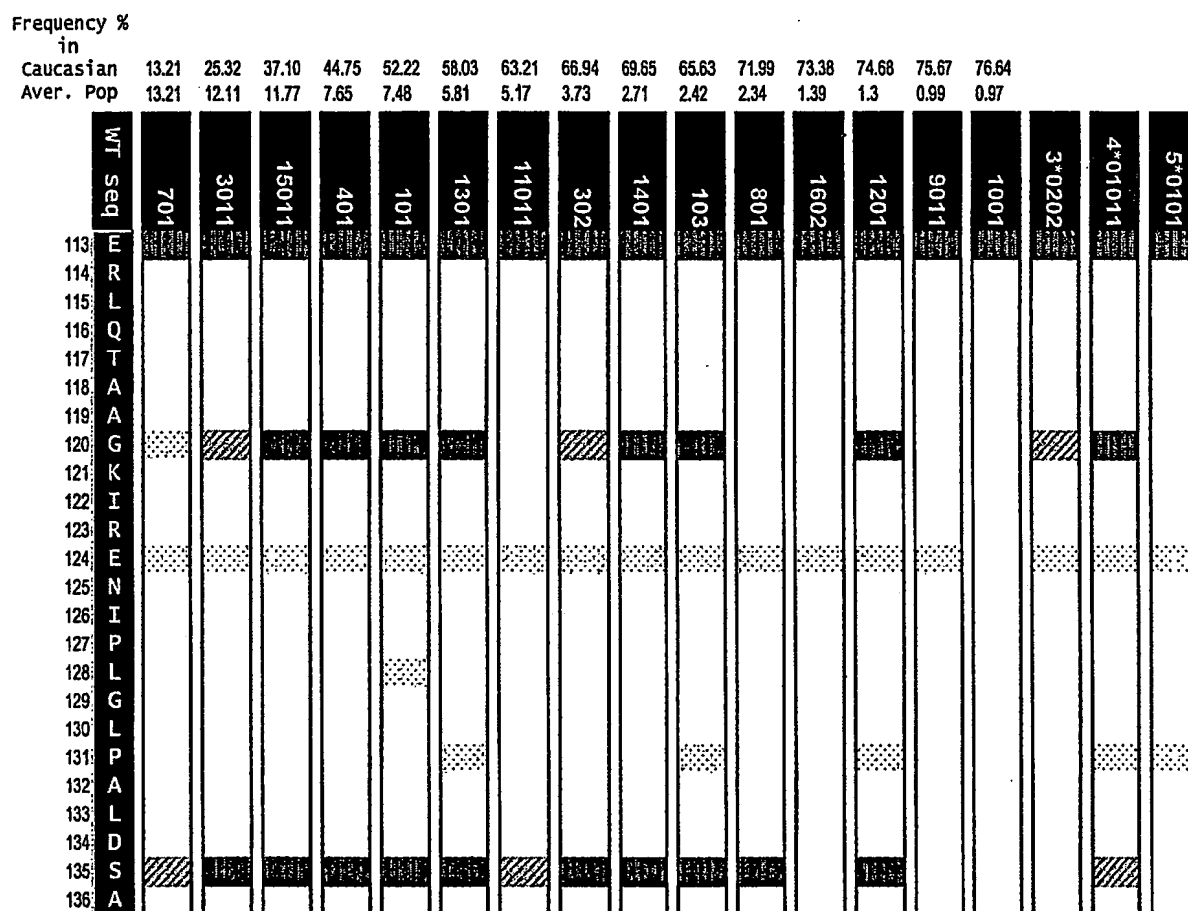
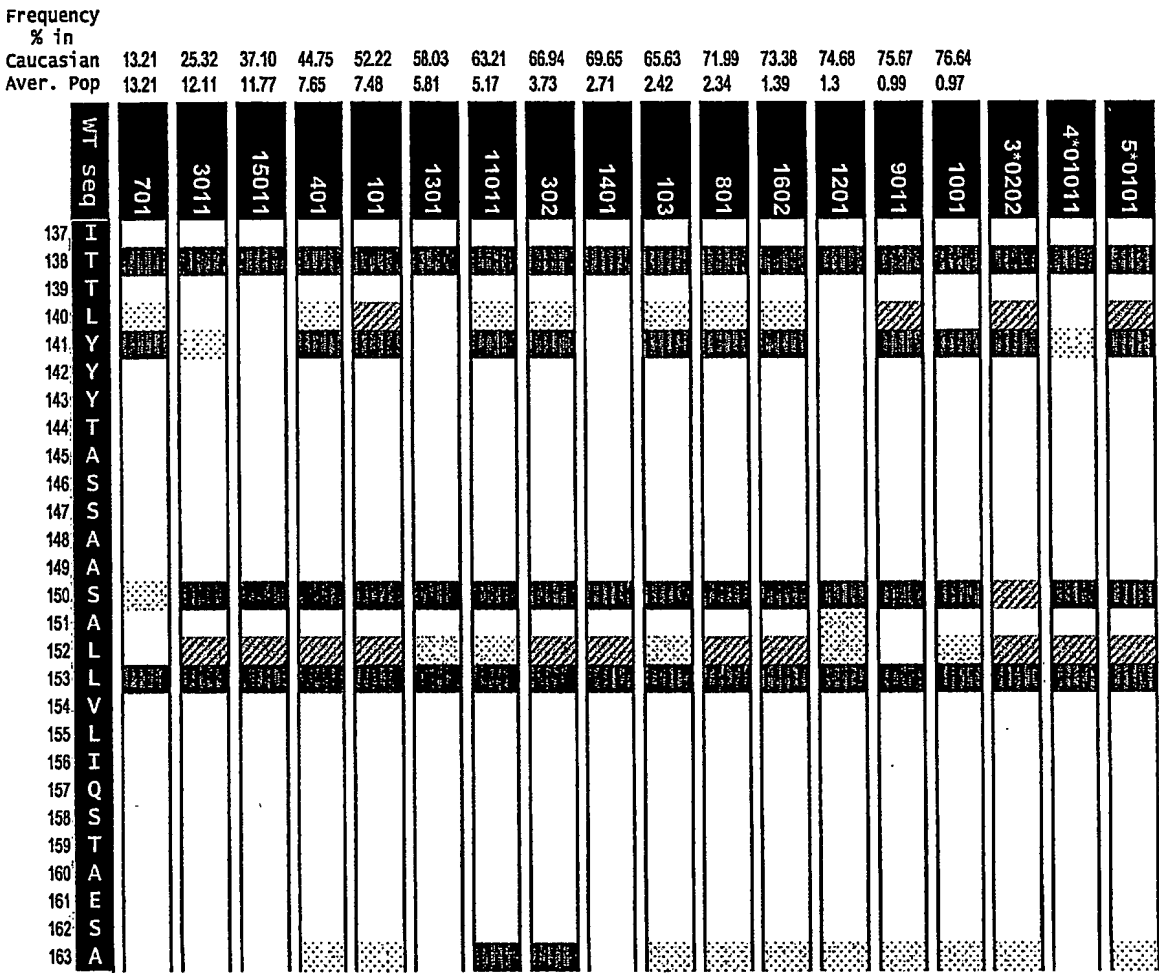


FIGURE 9

MHC Class II ligands detected within epitope region R4



LEGEND

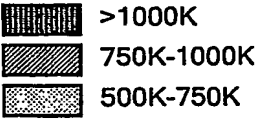
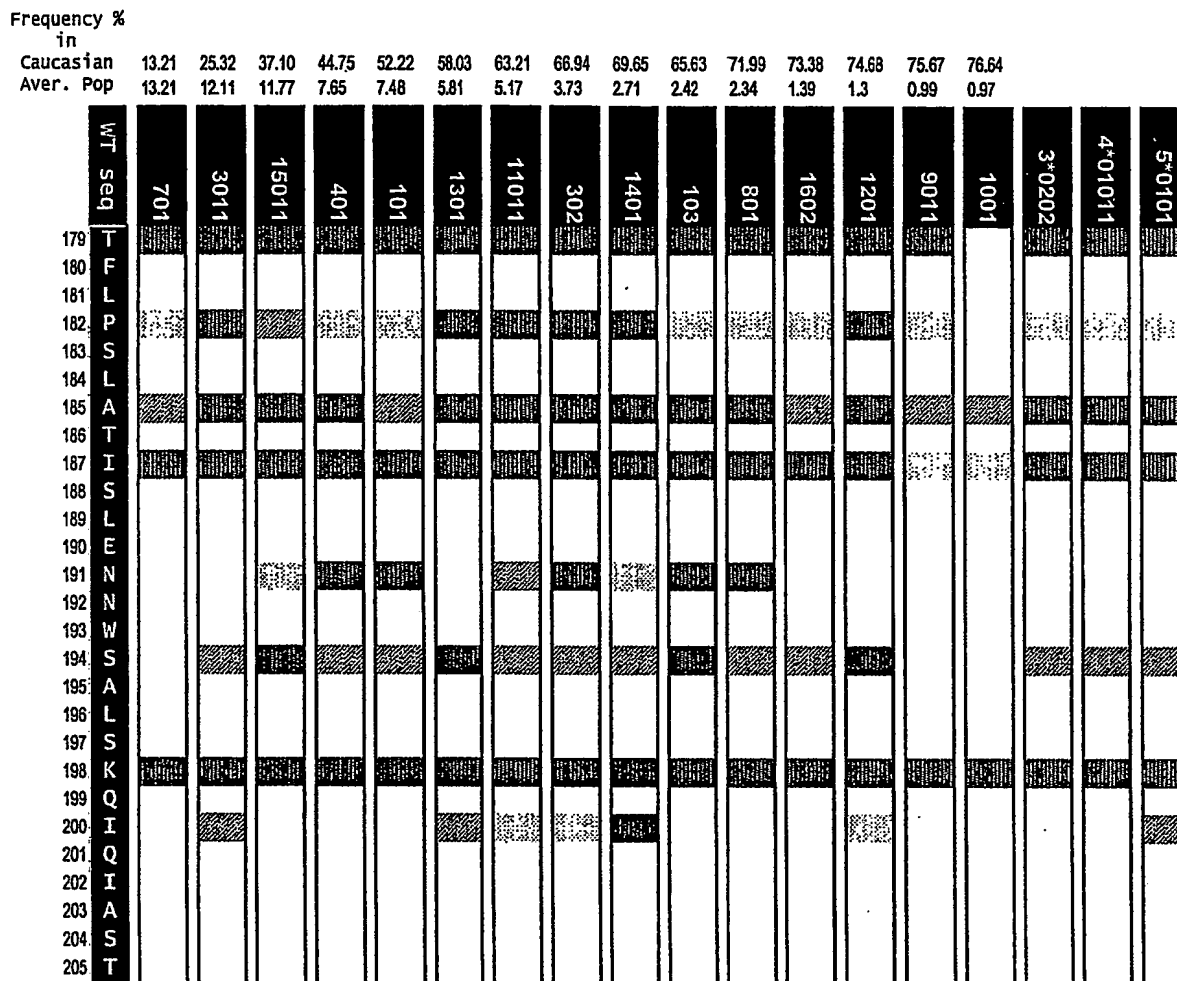


FIGURE 10

## MHC Class II ligands detected within epitope region R5



## LEGEND

